

Practitioner's Docket No. 2550/117 **PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: Felton et al.

Application No.: 10/002,953  
Filed: 10/23/2001  
For: MEMS Capping Method and Apparatus

Group No.: 1734  
Examiner: Culbert, Robert

**RECEIVED**

**APR 21 2004**

**OFFICE OF PETITIONS**

**Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450**

**INFORMATION DISCLOSURE STATEMENT**

*NOTE: "An information disclosure statement shall be considered by the Office if filed by the applicant:*

- (1) Within three months of the filing date of a national application;*
- (2) Within three months of the date of entry of the national stage as set forth in section 1.491 in an international application; or*
- (3) Before the mailing date of a first Office action on the merits, whichever event occurs last." 37 C.F.R. section 1.97(b).*

(Information Disclosure Statement--page 1 of 8)

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**CERTIFICATION UNDER 37 C.F.R. SECTIONS 1.8(a) and 1.10\***  
(When using Express Mail, the Express Mail label number is *mandatory*;  
Express Mail certification is optional.)

I hereby certify that, on the date shown below, this correspondence is being:

**MAILING**

☒ deposited with the United States Postal Service in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

**37 C.F.R. SECTION 1.8(a)**

**37 C.F.R. SECTION 1.10\***

☐ with sufficient postage as first class mail.

☒ as "Express Mail Post Office to Addressee"  
Mailing Label No. EY40127115 (mandatory)

**TRANSMISSION**

☐ transmitted by facsimile to the Patent and Trademark Office.

Signature



Date: April 20, 2004

Jeffrey T. Klayman  
(type or print name of person certifying)

**\*WARNING:** Each paper or fee filed by "Express Mail" *must* have the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 C.F.R. section 1.10(b).  
"Since the filing of correspondence under section 1.10 without the Express Mail mailing label thereon is an oversight that can be avoided by the exercise of reasonable C.F.R.e, requests for waiver of this requirement will not be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442.

**NOTE:** *"Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section." 37 C.F.R. section 1.56(a).*

*"Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:*

- (1) each inventor named in the application;*
- (2) each attorney or agent who prepares or prosecutes the application; and*
- (3) every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application." 37 C.F.R. section 1.56(c).*

**NOTE:** *The "duty as described in section 1.56 will be met so long as the information in question was cited by the Office or submitted to the Office in the manner prescribed by sections 1.97(b) - (d) and 1.98 before issuance of the patent." Notice of January 9, 1992, 1135 O.G. 13-25 at 17.*

**WARNING:** *"No information disclosure statement may be filed in a provisional application." 37 C.F.R. section 1.51(b).*

### **List of Sections Forming Part of This Information Disclosure Statement**

The following sections are being submitted for this Information Disclosure Statement:

*(check sections forming a part of this statement: disC.F.R.d unused sections and number pages consecutively)*

1. ☒ Preliminary Statements
2. ☒ Forms PTO/SB/08A and 08B (substitute for Form PTO-1449)
3. ☐ Statement as to Information Not Found in Patents or Publications
4. ☐ Identification of Prior Application in Which Listed Information Was Already Cited and for Which No Copies Are Submitted or Need Be Submitted
5. ☐ Cumulative Patents or Publications
6. ☒ Copies of Listed Information Items Accompanying This Statement
7. ☐ Concise Explanation of Non-English Language Listed Information Items
  - 7A. ☒ JEPO Search Report
  - 7B. ☐ English Language Version of EPO Search Report
8. ☐ Translation(s) of Non-English Language Documents
9. ☐ Concise Explanation of English Language Listed Information Items (Optional)
10. ☒ Identification of Person(s) Making This Information Disclosure Statement

*(complete the following, if appropriate)*

Sections \_\_\_\_\_, respectively, have been continued on ADDED PAGE(S).

**NOTE :** *"Once the minimum requirements are met, the examiner has an obligation to consider the information." Notice of April 20, 1992 (1138 O.G. 37-41, 37).*

## **Section 1. Preliminary statements**

Applicants submit herewith patents, publications or other information, of which they are aware that they believe may be material to the examination of this application, and in respect of which, there may be a duty to disclose.

The filing of this information disclosure statement shall not be construed as a representation that a search has been made (37 C.F.R. section 1.97(g)), an admission that the information cited is, or is considered to be, material to patentability, or that no other material information exists.

The filing of this information disclosure statement shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 1135 O.G. 13-25, at 25.

**SECTION 2. FORMS PTO/SB/08A and 08B (formerly Form PTO-1449)****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: Felton et al. Attorney Docket: 2550/117  
Serial No: 10/002,953 Art Group Unit: 1763  
Date Filed: 10/23/2001 Examiner Name: Culbert et al.  
Invention: MEMS Capping Method and Apparatus

**LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE STATEMENT**

| U.S. PATENT DOCUMENTS |                  |                    |            |                  |                |
|-----------------------|------------------|--------------------|------------|------------------|----------------|
| Examiner Initials     | Reference Number | Document Number    | Issue Date | Inventor         | Class/Subclass |
|                       | AL               | US 5,173,392       | 12/22/1992 | Miersch et al.   | 430/311        |
|                       | AM               | US 6,706,546 B2    | 03/16/2004 | Yoshimura et al. | 438/31         |
|                       | AN               | US 2002/0045030    | 04/18/2002 | Ozin et al.      | 428/173        |
|                       | AO               | US 2003/0113067 A1 | 06/19/2003 | Koh et al.       | 385/48         |
|                       | AP               | US 6,516,671 B2    | 02/11/2003 | Romo et al.      | 73/718         |
|                       | AQ               | US 2003/0119278 A1 | 06/26/2003 | McKinnell        | 438/455        |
|                       | AR               | US 5,761,350       | 06/02/1998 | Koh              | 385/14         |
|                       | AS               | US 2003/0053233 A1 | 03/20/2003 | Felton           | 359/883        |
|                       | AT               | US 2002/0021055 A1 | 02/21/2002 | Lee et al.       | 310/309        |
|                       | AU               | US 6,297,072 B1    | 10/02/2001 | Tilmans et al.   | 438/106        |
|                       | AV               | US 6,587,626 B2    | 07/01/2003 | Beguin et al.    | 385/125        |
|                       | AW               | US 6,621,137 B1    | 09/16/2003 | Ma et al.        | 257/528        |
|                       | AX               | US 2002/0109894 A1 | 08/15/2002 | Clark et al.     | 359/224        |
|                       | AY               | US 2002/0054422 A1 | 05/09/2002 | Carr et al.      | 359/291        |
|                       | AZ               | US 6,327,401 B1    | 12/04/2001 | Mitsuda et al.   | 385/49         |
|                       | BA               | US 2002/0027294 A1 | 03/07/2002 | Neuhaus et al.   | 257/778        |
|                       | BB               | US 6,620,642 B2    | 09/16/2003 | Dudoff et al.    | 438/26         |
|                       | BC               | US 5,535,526       | 07/16/1996 | White            | 34/78          |
|                       | BD               | US 6,543,286 B2    | 04/08/2003 | Garverick et al. | 73/514.18      |
|                       | BE               | US 6,373,621 B1    | 04/16/2002 | Wang             | 359/315        |
|                       | BF               | US 5,668,033       | 09/16/1997 | Ohara et al.     | 438/113        |
|                       | BG               | US 6,303,986 B1    | 10/16/2001 | Shook            | 257/680        |

| FOREIGN PATENT DOCUMENTS |                  |              |                 |                  |                       |                |
|--------------------------|------------------|--------------|-----------------|------------------|-----------------------|----------------|
| Examiner Initials        | Reference Number | Country Code | Document Number | Publication Date | Patentee or Applicant | Class/Subclass |
|                          | BH               | EP           | 1 096 564 A1    | 05/02/2001       | Motorola, Inc.        | H01L 23/04     |

| OTHER DOCUMENTS   |                  |            |  |
|-------------------|------------------|------------|--|
| Examiner Initials | Reference Number | Author     | Title of Article, Title of Journal, Volume Number, Page Numbers, Date      |
|                   | BI               | Lee et al. | Fabrication of Silicon Optical Scanner for Laser Display; 2000, pgs. 13-14 |

Examiner Signature: \_\_\_\_\_

Date Considered: \_\_\_\_\_

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation *if not* in conformance and not considered. Include copy of this form with next communication to applicant.

## Section 6. Copies of Listed Information Items Accompanying This Statement

*NOTE: 37 C.F.R. section 1.98(a)(2) requires that any information disclosure statement filed under section 1.97 shall include: "A legible copy of: (1) Each U.S. and foreign patent; (ii) Each publication or that portion which caused it to be listed; and (iii) All other information or that portion which caused it to be listed, except that no copy of a U.S. patent application need be included . . ."*

*NOTE: The wording in section 1.98(a)(2)(iii) makes it clear that the requirement to submit a copy of each item of information listed in an information disclosure statement does not apply to the citation of a U.S. patent application. Notice of January 9, 1992, 1135 O.G. 13-25, at 14.*

Legible copies of all items listed in Forms PTO/SB/08A and 08B (substitute for Form PTO-1449) accompany this information statement.

*(complete the following, if applicable)*

☐ Exception(s) to above:

☐ Items in prior application, from which an earlier filing date is claimed for this application, as identified in Section 4.

☐ Cumulative patents or publications identified in Section 5.

U.S. patent citations are not included pursuant to 37 CFR 1.98 9(a)(2)(i) and 37 CFR 1.491(b), in which the USPTO waived the requirement for submitting a copy of each cited U.S. patent and each U.S. patent application publication for all U.S. national patent applications filed after June 30, 2003 and for all international applications that have entered the national stage under 35 USC § 371 after June 30, 2003.

**Section 7A. Concise Explanation of Non-English Language Listed Information Items—EPO Search Report**

The relevance with respect to the following citations listed on Forms PTO/SB/08A and 08B (substitute for PTO-1449):

is submitted on the basis of the accompanying:

*(check the appropriate item)*

☒ JEPO search report that is in the English language,

☐ JEPO search report that is not in the English language and that is accompanied also by an English language version of the EPO search report,

that issued on the corresponding European patent application.

**Section 10. Identification of Person(s) Making This Information Disclosure Statement**

The person making this certification is

*(check each applicable item)*

(a) ☐ the inventor(s) who signs below

\_\_\_\_\_  
**SIGNATURE OF INVENTOR**

\_\_\_\_\_  
*(type name of inventor who is signing)*

(b) ☐ an individual associated with the filing and prosecution of this application (37 C.F.R. section 1.56(c))

\_\_\_\_\_  
**SIGNATURE OF INVENTOR**

\_\_\_\_\_  
*(type name of inventor who is signing)*

(c) ☒ the practitioner who signs below on the basis of the information:

*(check each applicable item)*

☐ supplied by the inventor(s).

☐ supplied by an individual associated with the filing and prosecution of this application. (37 C.F.R. section 1.56(c)).

☒ in the practitioner's file.

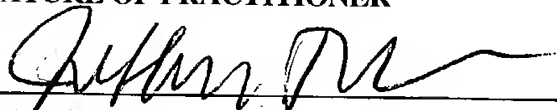
Reg. No.: 39,250

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Customer No.: 002101

02550/00134 306091.1

\_\_\_\_\_  
**SIGNATURE OF PRACTITIONER**

  
\_\_\_\_\_  
Jeffrey T. Klayman

\_\_\_\_\_  
125 Summer Street, 11<sup>th</sup> Floor

\_\_\_\_\_  
P.O. Address

\_\_\_\_\_  
Boston, MA 02110



PCT

From the INTERNATIONAL SEARCHING AUTHORITY

To:

BROMBERG & SUNSTEIN LLP  
Attn. Sunstein, Bruce D.  
125 Summer Street  
Boston, Massachusetts 02110-1618  
UNITED STATES OF AMERICA

DOCKETED

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT  
OR THE DECLARATION

RECEIVED  
(PCT Rule 44.1)

APR 21 2004

OFFICE OF PETITIONS

Applicant's or agent's file reference

2550/117 WO

Date of mailing  
(day/month/year)

18/03/2004

FOR FURTHER ACTION

See paragraphs 1 and 4 below

International application No.

PCT/US 02/33811

International filing date  
(day/month/year)

23/10/2002

Applicant

ANALOG DEVICES, INC.

1. ☒ The applicant is hereby notified that the International Search Report has been established and is transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

**When?** The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.

**Where?** Directly to the International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland  
Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no International Search Report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ **With regard to the protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.


4. **Further action(s):** The applicant is reminded of the following:

Shortly after **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

Within **19 months** from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within **20 months** from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the International Searching Authority

 European Patent Office, P.B. 5818 Patentlaan 2  
NL-2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Klaus Meierewert

## NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions respectively.

### INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

#### What parts of the International application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

#### When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

#### Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

#### How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

#### What documents must/may accompany the amendments?

##### Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

## NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:  
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:  
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:  
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or  
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:  
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

### "Statement under article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

**It must be in the language in which the international application is to be published.**

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

### Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the same time of filing the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority (see Rule 62.2(a), first sentence).

### Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, where upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.

**PCT****INTERNATIONAL SEARCH REPORT**

(PCT Article 18 and Rules 43 and 44)

**RECEIVED**  
**APR 21 2004**  
**OFFICE OF PETITIONS**

|  |   |   |
|--|---|---|
| Applicant's or agent's file reference<br><br>2550/117 WO | <b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below. |   |
| International application No.<br><br>PCT/US 02/33811     | International filing date (day/month/year)<br><br>23/10/2002  | (Earliest) Priority Date (day/month/year)<br><br>23/10/2001 |
| Applicant<br><br>ANALOG DEVICES, INC.                    |   |   |

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

5

☐ None of the figures.

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 B81B7/00 B81C1/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B81B B81C H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category ° | Citation of document, with indication, where appropriate, of the relevant passages                                      | Relevant to claim No. |
|------------|---|-----------------------|
| X          | US 5 668 033 A (KANAMORI KATUHIKO ET AL)<br>16 September 1997 (1997-09-16)  | 1-3, 6,<br>13-16, 18  |
| Y          | column 6, line 15 -column 9, line 45<br><br>column 13, line 23 -column 13, line 27;<br>figures 11-14                    | 4, 5, 7-9,<br>17      |
| Y          | US 6 303 986 B1 (SHOOK JAMES GILL)<br>16 October 2001 (2001-10-16)<br>column 5, line 20 -column 5, line 30;<br>figure 3 | 4, 5, 17              |
| Y          | EP 1 096 564 A (MOTOROLA INC)<br>2 May 2001 (2001-05-02)<br>column 2, line 48 -column 3, line 14;<br>figure 1           | 7-9                   |



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

° Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

11 March 2004

Date of mailing of the international search report

18/03/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Segeberg, T

| Patent document<br>cited in search report |    | Publication<br>date |    | Patent family<br>member(s) | Publication<br>date |
|---|----|---------------------|----|----------------------------|---------------------|
| US 5668033                                | A  | 16-09-1997          | JP | 8316497 A                  | 29-11-1996          |
|   |    |                     | DE | 19619921 A1                | 05-12-1996          |
| <hr/>                                     |    |                     |    |                            |                     |
| US 6303986                                | B1 | 16-10-2001          | AU | 5134899 A                  | 21-02-2000          |
|   |    |                     | CA | 2338691 A1                 | 10-02-2000          |
|   |    |                     | CN | 1320101 T                  | 31-10-2001          |
|   |    |                     | EP | 1113982 A2                 | 11-07-2001          |
|   |    |                     | JP | 2002521837 T               | 16-07-2002          |
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